

## CURRICULUM VITAE – ANDREA PETRI

---

CONTACT INFORMATION      Andrea Petri      +1 (917)969-7212  
538 West 120th Street      [apetri@phys.columbia.edu](mailto:apetri@phys.columbia.edu)  
New York, NY 10027, USA      <http://apetri.me>

EDUCATION      **Doctor of Philosophy**, Physics      Expected June 2017  
Columbia University  
Research advisors: Prof. Zoltán Haiman, Prof. Morgan May  
**Master of Philosophy**, Physics      May 2014  
Columbia University  
**Master of Arts**, Physics      May 2013  
Columbia University  
**Laurea Specialistica**, Theoretical Physics      June 2011  
Scuola Normale Superiore, Pisa, Italy  
Thesis advisor: Prof. Andrea Ferrara

### PUBLICATIONS

*Do dark matter halos explain lensing peaks?*  
J.M. Zorrilla, Z. Haiman, D. Hsu, A. Gupta, A. Petri, Phys. Rev. D **94**, 083506 (2016)

*CMB Lensing Beyond the Power Spectrum: Cosmological Constraints from the One-Point PDF and Peak Counts*  
J. Liu, J. Coin Hill, B. D. Sherwin, A. Petri, V. Bohm, Z. Haiman, submitted to PRD (under peer review)

*Cosmology with photometric weak lensing surveys: constraints with redshift tomography of convergence peaks and moments*  
A. Petri, M. May, Z. Haiman, Phys. Rev. D **94**, 063534 (2016)

*Mocking the Weak Lensing universe: the LensTools python computing package*  
A. Petri; Astronomy & Computing, Elsevier, **17**, 73-79 (2016)

*Consequences of CCD imperfections for cosmology determined by weak lensing surveys: From laboratory measurements to cosmological parameter bias*  
Y.Okura, A. Petri, M.May, A.Plazas, T.Tamagawa; Astrophys. Journal, 825-1, **61** (2016)

*Sample variance in weak lensing: how many simulations are required?*  
A. Petri, Z.Haiman, M.May; Phys. Rev. D **93**, 063524 (2016)

*Emulating the CFHTLenS weak lensing data: Cosmological constraints from moments and Minkowski functionals*  
A. Petri, J. Liu, Z.Haiman, M.May, L.Hui, J.M.Kratochvil; Phys. Rev. D **91**, 103511 (2015)

*Cosmology constraints from the weak lensing peak counts and the power spectrum in CFHTLenS data*  
J.Liu, A. Petri, Z.Haiman, L.Hui, J.M.Kratochvil, M.May; Phys. Rev. D. **91**, 063507 (2015)

	<p><i>Impact of spurious shear on cosmological parameter estimates from weak lensing observables</i>  A. Petri, M.May, Z.Haiman, J.M.Kratochvil; Phys. Rev. D <b>90</b>, 123015 (2014)</p> <p><i>Cosmology with Minkowski Functionals and moments of the weak lensing convergence field</i>  A. Petri, Z.Haiman, L.Hui, M.May, J.M.Kratochvil; Phys. Rev. D <b>88</b>, 123002 (2013)</p> <p><i>Supermassive black hole ancestors</i>  A. Petri, A.Ferrara, R.Salvaterra; Mon. Not. R. Astron. Soc. <b>422</b>, 1690-1699 (2012)</p>	
AWARDS	<p>Co-recipient of the Allan M. Sachs Teaching Award for contributions to the educational programs in the Columbia University Physics Department (May 2016)</p> <p>Bronze medalist, 37th International Physics Olympiad, Singapore (July 2006)</p>	
PEER REVIEW EXPERIENCE	<p>Served as peer reviewer for the American Astronomical Society (AAS) and for the MNRAS journal</p>	
TEACHING EXPERIENCE	<p><b>Co-Instructor, Science Honors Program</b> 2012-present  Columbia University  Introduction to Modern Cosmology for high school students</p> <p><b>Graduate student instructor</b> 2011-present  Physics Department, Columbia University</p>	<p>Introductory Physics Lab (pre-medical) Fall 2011, Spring 2012</p> <p>Introductory Physics Lab (engineers) Fall 2012, Spring 2013</p> <p>Physical Cosmology (TA, grading) Fall 2012</p> <p>Particle Astrophysics and Cosmology (TA, recitations) Spring 2013</p> <p>EKA Advanced Physics Laboratory (TA) Fall 2013-</p> <p>Particle Astrophysics and Cosmology (TA, grading) Spring 2015</p> <p>Particle Astrophysics and Cosmology (TA, recitations, homework solutions writeup) Spring 2016</p>
TALKS	<p>Contributed: LSST DESC collaboration meeting, SLAC 3/9/2016</p> <p>Contributed: LSST DESC collaboration meeting, Argonne National Laboratory 10/28/2015</p> <p>Contributed: AstroFest 2015, Columbia University 9/11/2015</p> <p>Contributed: Santa Fe Cosmology Workshop 7/17/2014</p> <p>Contributed: <a href="#">27th Symposium on Relativistic Astrophysics</a> 12/12/2013  Dallas, TX</p>	
POSTERS	<p>Columbia Data Science Institute Bi-Annual Symposium 4/1/2015</p>	
POSITIONS	<p><b>Graduate Research Assistant</b>, Columbia University 2011-present</p> <p><b>Summer Associate</b>, Morgan Stanley, New York Summer 2015, Summer 2016</p>	

## REFERENCES

Zoltán Haiman, Professor, Columbia University [zoltan@astro.columbia.edu](mailto:zoltan@astro.columbia.edu)  
Morgan May, Professor, Brookhaven National Laboratory [may@bnl.gov](mailto:may@bnl.gov)  
Columbia University  
Lam Hui, Professor, Columbia University [lh399@columbia.edu](mailto:lh399@columbia.edu)  
Andrea Ferrara, Professor, Scuola Normale Superiore [andrea.ferrara@sns.it](mailto:andrea.ferrara@sns.it)  
Pisa, Italy